

East Chicago Sanitary District

2021 Annual Report

EAST CHICAGO SANITARY DISTRICT 2021 ANNUAL REPORT

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The following information associates to the East Chicago Sanitary District (District) annual update relative to the issuance and maintenance of Industrial Wastewater Discharge permits during Year 2021.

Permitted Industrial Users

The District commenced Year 2021 with 19 Industrial Users (IUs) permitted to discharge into the City of East Chicago sewer system. This includes four Categorical IUs (CIUs) which are Electric Coating Technologies (#312), National Processing (#514), Lakeshore Railcar LLC (521) and Safety-Kleen Systems (#901). Six additional IUs [Safety Kleen - (#901), Linde Inc. (aka Production) - (#531)), Lakeshore Rail and Tanker Services - (#521), National Processing - (#514) and Linde Inc. (aka H₂ and CO₂) - (941)), Electric Coatings (#312) and Linde Inc. (aka Rare Gas - #541) are classified as Significant IUs (SIUs). On July 07, 201, a temporary permit was issued to Buckeye Terminals (#124) for temporary groundwater dewatering to facilitate their construction during a planned outage. One longstanding permit, as issued to Green Lakes Tube LLC (#511) was determined by the District as being terminable as no wastewater related discharges were existent within the operations. Green Lake recycles their process water within its process and does not have any industrial discharge. The Green Lake Tube permit was terminated effective August 10, 2021. Attachment I summarizes the inspection, SPCC plan requirements, permit expiration and corresponding inspection dates of each IU for 2021.

IDEM/USEPA Audit

During 2021, IDEM/USEPA conducted an audit of the District's Pretreatment Program conformance practices. Within its findings report, IDEM/USEPA listed 43 non-conformances and further required that the District initiate immediate action to mitigate the non-compliances. The District initiated immediate action to address each of the identified non-conformance deficiencies to bring its Pretreatment program into full compliance. Within this pursuit, the District noted that the majority of all non-compliances were resident in the issued wastewater discharge permits and involved various errors or omissions. The District's first course of action was to create two standardized permit templates to correct these deficiencies. The first permit template was designed to strictly apply to permitted non-categorical wastewater related dischargers which included the specific categorical limits for each permittee and additional monitoring and reporting requirements for CIUs. These modifications thus serve to standardize and further minimize if not eliminate mistakes within these governing documents. Relative to the District's ongoing efforts to apply the standardized template to the permitted wastewater discharger, the District has reissued as of December 31, 2021, 72% of all non-conforming permits. The remaining 28% of non-conforming permits remain subject to the District's continued discretion as due to disposition related considerations (i.e., categorical corrections, permit termination, transfer of ownership). Conversely and relative to the remaining 28% of the cited non-conformances, please be advised that the greater majority of these citations are administrative related (e.g., IU characterization, inspection meetings, sampling requirements, etc.) and have been timely addressed.

Inspections and Monitoring

Over the course of 2021, the District conducted announced inspections of all permitted wastewater dischargers and further documented each inspection meeting. During each of the inspection meetings, discussion focused upon various compliance related considerations, including wastewater discharge related monitoring requirements. As consistent with 40 CFR 403.12 (g) (1), which further allows the POTW to sample in lieu of the IU, the District conducted a total of 220 Compliance Monitoring events. A total of 66 sampling events were conducted of the four CIUs: Electric Coating Technologies #312 (12), National Processing #514 (12), Lakeshore Railcar LLC #521 (20) and Safety-Kleen Systems #901 (22). Each of the four CIUs performed self-monitoring events as a total of seven self-monitoring events were completed. Additionally, seven self-monitoring events were reported by three other IUs: USS Lead Refinery #411 (1), GATX #122 (2) and US Gypsum #951 (4). Attachment II summarizes the compliance monitoring events, industrial self-monitoring events and total number of inspections completed.

Enforcement Actions & Compliance Status

The District issued written Notices of Violations (NOVs) and fines to five different IUs for 57 violations as detailed within the table below.

East Chicago Sanitary District						
Compliance Status Report						
Report Date Range: 01/01/21 – 12/31/21						
Outfall	Discharger	Parameter	Unit	Violation(s)	Limit Description	Limit
901	Safety-Kleen	Amenable Cyanide	mg/L	22	Daily Maximum Limit	>0.019
901	Safety-Kleen	FOG	mg/L	3	Daily Maximum Limit	>117
901	Safety-Kleen	Mercury	Mg/L	6	Daily Maximum Limit	>0.0002
901	Safety-Kleen	Ammonia	mg/L	1	Daily Maximum Limit	>134
901	Safety-Kleen	n-Octadecane	mg/L	1	Daily Maximum Limit	>1.22
901	Safety-Kleen	Phenols	mg/L	4	Daily Maximum Limit	>0.96
901	Safety-Kleen	pH	s.u.	1	Daily Maximum Limit	<5
521	Lakeshore Railcar	Amenable Cyanide	mg/L	9	Daily Maximum Limit	>0.019
521	Lakeshore Railcar	FOG	mg/L	1	Daily Maximum Limit	>117
531	Linde (Prod)	Amenable Cyanide	mg/L	3	Daily Maximum Limit	>0.019
934	Cleveland Cliffs	Amenable Cyanide	mg/L	2	Daily Maximum Limit	>0.019
951	US Gypsum	Amenable Cyanide	mg/L	3	Daily Maximum Limit	>0.019
951	US Gypsum	Phenols	mg/L	1	Daily Maximum Limit	>0.96
Total				57		

The characterization of compliance status relative to each IU is detailed within Attachment III. With the continued exception of Safety-Kleen, only five IUs experienced violations during the course of Year 2021. Each of the dischargers have taken the required initiative to address all non-compliance related events. One IU that continues to experience chronic violations with regard to their CN discharges is Safety-Kleen (#901). Because of their historical record of repeat and chronic violations, Safety-Kleen continues to be

monitored on a twice a month basis and is further characterized as a chronic violator relative to cyanide related discharges. Lakeshore Railcar #521 has also demonstrated chronic violation related tendencies during the course of the past year as they have exceeded the cyanide local limit on nine separate occasions. This is not consistent with last year's compliance as only one CN exceedance was observed in 2020. Linde Inc. (Production – (#531)), Cleveland Cliffs (#934) and US Gypsum (#951) have strictly experienced CN related violations. The total number of violations observed in 2021 (57) as compared to 2020 (48) and 2019 (41) are mostly attributable to the increased exceedances reported at Lakeshore Railcar (#521). The majority of all violations during 2021 were CN related. Attachment III demonstrates the characterization of the compliance status for each of the permitted dischargers.

Attachment IV summarizes the NOVs issued as well as the fines assessed to each IU. As summarized in the attachment, \$124,000 in fines were assessed to five IUs for 2021 violations. The fines totals for each IU were as follows: Lakeshore Railcar (#521) - \$10,000; Safety-Kleen Systems (#901) - \$95,000, US Gypsum (#951) - \$10,000, Linde Inc. (Production (#531)) - \$7,000 and Cleveland Cliffs (#934) – \$3,000. Relative to the continued effort to collect payment against these assessed fines, 71% or \$88,500 remains outstanding to date. Furthermore, the matter concerning Safety-Kleen's ongoing appeal of the CN related fines continues. Moreover, the District continues to evaluate the development of an alternate CN local limits as based on mass-load or flow-based calculations to address this legacy condition and achieve resolution to the to the appeal and settlement of all fines.

Attachment V provides the proposed Compliance Monitoring and Inspection Work Plan for 2022. It is anticipated that the District will complete 199 compliance monitoring events based upon completing a monthly sampling event. Additionally, the District will conduct at least a full site inspection of each IU, as a minimum.

Attachment VI provides a summary of the Organic Scan for the POTW. No annual Organic Scan analyses were performed in 2021 due to an oversight. This sampling was typically scheduled by the Chief Operator to the District's POTW and did not occur due to his retirement at the end of May 2021. Historically, the District has not had identified any concentrations of concern for any volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) or pesticides in its influent , effluent or sludge samples.

The POTW discharge violations for 2021 as reported in our Monthly Report of Operations (MORs) are summarized within the table below.

East Chicago Sanitary District
Compliance Status Report
Report Date Range: 01/01/21 – 12/31/21

Parameter	Unit	Violation(s)	Limit Description	Limit
E.Coli	COL/100m	53	Daily Maximum Limit	>235
E.Coli	COL/100m	3	Monthly Maximum Limit	>125
EFFLUENT TSS	mg/L	12	Monthly Maximum Limit	>8.5
EFFLUENT TSS	mg/L	48	Weekly Avg. Maximum Limit	>12.8
EFFLUENT T- PHOS	mg/L	1	Monthly Maximum Limit	>1
EFFLUENT NH ₃ - N	mg/L	43	Daily Maximum Limit - Summer	>2.79
EFFLUENT NH ₃ - N	mg/L	3	Monthly Avg. Maximum Limit - Summer	>1.2
EFFLUENT O & G	mg/L	1	Daily Maximum Limit	>10
EFFLUENT CBOD5	mg/L	5	Weekly Average Maximum Limit - Winter	>10.7
EFFLUENT CN	mg/L	1	Monthly Maximum Limit	>0.0043
EFFLUENT TSS WEEKLY AVERAGE	mg/L	48	Weekly Maximum Limit	>12.8
EFFLUENT MERCURY, TOTAL REC. LL 1631E	ng/L	1	Daily Maximum Limit	>3.16
EFFLUENT MERCURY, TOTAL REC. LL 1631E	ng/L	2	Monthly Maximum Limit	>1.3

The District experienced numerous violations during 2020 with respect to its total suspended solids (TSS), ammonia (NH₃) and Escherichia coli (E Coli) discharges. These exceedances are attributable to the operational limitations that we faced due to various mechanical breakdowns within our plant. Late in 2020, one of our two sludge dewatering presses failed and was taken out of service. Our second sludge press failed on April 15, 2021. The first press was returned to service on May 17, 2021, having a period of 32 days where no solids were removed from the plant's waste holding tanks. The second press was repaired and brought back in service on October 14, 2021. The excessive downtime of the presses was attributable to the lead-time required to get the necessary parts to repair the over 30 year old dewatering presses. This condition caused an excessive amount of solids remaining in our plant, exceeding the settling capacity of our clarifiers and ultimately overcharging our tertiary sand filters, resulting in the TSS violations.

During this same period, two of our five clarifiers were also removed from service as they had over torqued and required servicing. Clarifier #5 failed on February 19 and Clarifier #1 failed soon after on February 23, 2021. Both clarifiers were repaired and brought back into service in early June. The repairs had to be scheduled at a time June when the groundwater table was sufficiently lowered to allow them to be emptied for repairs. The water within the clarifiers became anaerobic during this period. This anaerobic water was pumped back to our headworks and upset the biological activity within our oxidation ditch further affecting our excessive TSS, NH₃, and E Coli violations. Once the repairs to the clarifiers were completed in mid-June and the plant re-established its normal biological activity, the NH₃ violations ceased or significantly decreased.

The TSS violations have occurred throughout the year and in addition to the issues addressed above, are likely attributable to the high solids still contained within the plant as well as needed inspection and repairs to the existing sand filters. The seals on the influent and effluent gate valves do not completely seal preventing full inspections of each filter possible. Moreover, it has been noted that there is a lack of adequate depth to the filter beds and there is a concern that the underlying porous plates and underdrains may be damaged or need of repair. The district is currently working on the replacement of valve seals as well as the removal and replacement of the filter media from each of the six sand filters. This work is expected to be completed by mid-May. We currently are finishing the repairs on the second of the six filters.

With regard to violations that are associated with industrial waste streams, there was one cyanide violations and three mercury violations (one daily maximum concentration and two monthly maximum average concentration violations)

ATTACHMENT I

Inspection and Permit Information

Ct	Discharger	OutFall No	Permit Expiration	SPPC Required?	SIU	CAT	Inspection Date	SIC Code
01	Safety Kleen	901	8/21/23	Yes	X	X	05/10/21	2992
02	Linde Inc. (Production)	531	11/22/26	Yes	X		05/18/21	2813
03	US Lead Refinery	411	10/10/22	No			05/24/21	3341
04	Lakeshore Railcar	521	05/30/23	Yes	X	X	07/16/21	4785
05	National Processing	514	08/08/26	Yes	X	X	07/19/21	3312
06	Cleveland Cliffs	931	06/06/22	Yes			08/13/21	3312
07	Cleveland Cliffs	934	06/06/22	Yes			08/13/21	3312
08	Cleveland Cliffs	935	06/06/22	Yes			08/13/21	3312
09	Cleveland Cliffs	804	01/02/22	Yes			08/16/21	3312
10	Cleveland Cliffs	805	01/02/22	Yes			08/16/21	3312
11	Linde Inc. (H2 and CO2)	941	06/20/25	Yes	X		08/30/21	2813
12	Electric Coatings	312	07/14/23	Yes	X	X	09/03/21	3313
13	WR Grace	401	08/21/26	Yes	X		09/17/21	2819
14	GATX	112	10/02/26	No			09/10/21	NC
15	US Gypsum	951	11/21/26	Yes	X		09/20/21	3275
16	AM Research	611	01/02/22	Yes			09/24/21	3312
17	Linde Inc. (Rare Gases)	541	07/31/26	Yes			10/11/21	2813
18	ICO Polymers	518	06/06/22	Yes			10/01/21	3087 3089
19	Green Lake	511	08/08/21	Yes			07/23/21	3317

Note:
 NC = No Code Assigned by Discharger
 AM Research (#611) - permit termination requested; District continues to review request
 Cleveland Cliffs (#804) - permit termination requested; District continues to review request
 Cleveland Cliffs (#805) – On or about 1/20/22, sale of real property to Speedwagon Capital Partners (SCP); SCP to demolish steelmaking operations in 2022
 Green Lake permit terminated on 08/10/21

ATTACHMENT II

Monitoring 2021

Ct	Discharger	O/F No	Compliance Monitoring Events	Industrial Self-Monitoring Events	Number of Inspections
01	Safety Kleen	901	22	1	1
02	Linde Inc. (Production)	531	12	0	1
03	US Lead Refinery	411	1	4	1
04	Lakeshore Railcar	521	20	2	1
05	National Processing	514	12	1	1
06	Cleveland Cliffs	931	12	0	1
07	Cleveland Cliffs	934	11	0	1
08	Cleveland Cliffs	935	12	0	1
09	Cleveland Cliffs	804	11	0	1
10	Cleveland Cliffs	805	12	0	1
11	Linde Inc. (H2 and CO2)	941	12	0	1
12	Electric Coatings	312	12	2	1
13	WR Grace	401	12	0	1
14	GATX	112	3	2	1
15	US Gypsum	951	12	4	1
16	AM Research	611	12	0	1
17	Linde Inc. (Rare Gases)	541	12	0	1
18	ICO Polymers	518	12	0	1
19	Green Lakes	511	8	0	1
	Totals		220	16	19

Note:

Green Lakes discharge permit was terminated on 08/10/21

ATTACHMENT III

Pretreatment Performance Summary 2021

Ct	Discharger	OutFall Number	Always Compliant	Minor Non-Compliance	Significant Non-Compliance	Back In Compliance	On Compliance Schedule
01	Safety Kleen	901			X		
02	Linde Inc. (Production)	531		X		X	
03	US Lead Refinery	411	X				
04	Lakeshore Railcar	521		X			
05	National Processing	514	X				
06	Cleveland Cliffs	931	X				
07	Cleveland Cliffs	934	X				
08	Cleveland Cliffs	935	X				
09	Cleveland Cliffs	804	X				
10	Cleveland Cliffs	805	X				
11	Linde Inc. (H2 and CO2)	941	X				
12	Electric Coatings	312	X				
13	WR Grace	401		X		X	
14	GATX	112	X				
15	US Gypsum	951		X		X	
16	AM Research	611	X				
17	Linde Inc. (Rare Gases)	541	X				
18	ICO Polymers	518	X				
19	Green Lakes	511	X				

Note:

Green Lakes discharge permit was terminated on 08/10/21

Buckeye Terminals issued a Temporary permit on 07/07/21

Attachment IV

Compliance and Enforcement Information 2021

Discharger	OutFall No.	Ct	Sample Date	Parameter	Local Limit	Reported Concentration	Fine Amount	Fine Paid
Safety-Kleen	901	1	01/12/21	CN	0.019	0.22	\$2,500	*
	901	2	01/27/21	CN	0.019	0.12	\$2,500	*
	901	3	02/11/21	CN	0.019	0.1	\$2,500	*
	901	4	02/23/21	CN	0.019	0.055	\$2,500	*
	901	5	03/17/21	CN	0.019	0.3	\$2,500	*
	901	6	03/29/21	CN	0.019	0.048	\$2,500	*
	901	7	04/12/21	CN	0.019	0.28	\$2,500	*
	901	8	04/28/21	CN	0.019	0.12	\$2,500	*
	901	9	05/10/21	CN	0.019	0.13	\$2,500	*
	901	10	05/26/21	CN	0.019	0.063	\$2,500	*
	901	11	06/10/21	CN	0.019	0.25	\$2,500	\$2,500
	901	12	06/28/21	CN	0.019	0.2	\$2,500	\$2,500
	901	13	07/20/21	CN	0.019	0.041	\$2,500	*
	901	14	07/27/21	CN	0.019	0.048	\$2,500	*
	901	15	08/17/21	CN	0.019	0.034	\$2,500	*
	901	16	08/24/21	CN	0.019	0.029	\$2,500	*
	901	17	09/22/21	CN	0.019	0.17	\$2,500	*
	901	18	09/29/21	CN	0.019	0.12	\$2,500	*
	901	19	10/28/21	CN	0.019	0.048	\$2,500	*
	901	20	11/08/21	CN	0.019	0.041	\$2,500	*
	901	21	11/17/21	CN	0.019	0.075	\$2,500	*
	901	22	12/02/21	CN	0.019	0.046	\$2,500	*
	901	22		CN		Subtotal	\$55,000	\$5,000
	901	01	02/23/21	FOG	117	509	\$2,500	\$2,500
	901	02	04/12/21	FOG	117	160	\$2,500	\$2,500
	901	03	06/28/21	FOG	117	163	\$2,500	Unpaid
	901	03		FOG		Subtotal	\$7,500	\$5,000
Safety-Kleen	901	01	02/23/21	Hg	0.0002	0.00106	\$2,500	Unpaid
	901	02	04/28/21	Hg	0.0002	0.00071	\$2,500	\$2,500
	901	03	05/10/21	Hg	0.0002	0.00054	\$2,500	\$2,500

[illegible]

ATTACHMENT V

Compliance Monitoring and Inspection Work Plan 2022

Ct	Discharger	O/F No	Permit Expiration Date	Compliance Monitoring Events	Industrial Self- Monitoring Events	Number of Inspections
01	Safety Kleen	901	08/21/23	24	2	1
02	Linde Inc. (Production)	531	11/22/26	12	0	1
03	US Lead Refinery	411	10/10/22	1	1	1
04	Lakeshore Railcar	521	05/20/23	24	2	1
05	National Processing	514	08/08/26	12	1	1
06	Cleveland Cliffs	931	06/06/22	12	0	1
07	Cleveland Cliffs	934	06/06/22	12	0	1
08	Cleveland Cliffs	935	06/06/22	12	0	1
09	Cleveland Cliffs	804	01/02/22	5	0	1
10	Cleveland Cliffs	805	01/02/02	5	0	1
11	Linde Inc. (H2 and CO2)	941	06/20/25	12	0	1
12	Electric Coatings	312	07/14/23	12	2	1
13	WR Grace	401	08/21/26	12	0	1
14	GATX	112	10/02/26	3	2	1
15	US Gypsum	951	11/21/26	12	4	1
16	AM Research	611	01/02/22	5	0	1
17	Linde Inc. (Rare Gases)	541	07/31/26	12	0	1
18	ICO Polymers	518	06/06/22	12	0	1
19	Green Lakes	511	08/08/21	0	0	0
Totals				199	14	18

Note:

Green Lakes (511) discharge permit was terminated on 08/10/21

Cleveland Cliffs (804) permit subject to termination consideration

Cleveland Cliffs (805) change of ownership; new owner demolishing steelmaking operation

AM Research (611) permit subject to termination consideration